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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/945,385	08/31/2001	Hildegard Romer	13692.3US01	2144

7590 05/19/2004

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EXAMINER

WALLS, DIONNE A

ART UNIT	PAPER NUMBER
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1731

DATE MAILED: 05/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/945,385

Applicant(s)

ROMER ET AL.

Examiner

Dionne A. Walls

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 February 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Wright (US. Pat. No. 2,890,548).

Wright discloses all that is recited in the claim (see entire document and figs, especially col. 4, lines 52-71. Note: "time lapse" corresponds to the claimed "pulse"; and "desirable time settings of timer control 39 for maintaining the solenoid energized and opening valve 31 is within the range of from 1/10 to 2/10 second" corresponds to the claimed "duration of a pulse amounts to less than 1 s".)

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wright (US. Pat. No. 2,890,548)

Regarding claims 2-3, while Wright may not specifically state that the duration of a pulse amounts to less than 100 or 50 ms, this recitation is not deemed to impart

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patentable distinction to the claims since Wright discloses that time lapses of its invention are "rapid". This language would have motivated one having ordinary skill in the art to, after routine experimentation, optimize the lapse time, and arrive at the claimed value, in order to provide effective operating conditions for optimal bubble sizes for bubbles emanating from the nozzle of the bubbler. "Where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." *In re Aller*, 220 F.2d 454,456, 105 USPQ 233,235 (CCPA).

Regarding claims 3-5, while Wright may not specifically state that the pressure falloff of a pulse from maximum value to null takes place within a time span of less than 100 or 50 ms, Wright does state that the high pressurized gas that is delivered to the bubbler nozzle is "exploded" therethrough, which would have suggested to one having ordinary skill in the art that pressure falloff (as well as initial rising) would be almost instantaneous – which would correspond to the claimed recitation.

Regarding claims 6-7, while Wright may not specifically state that the interval between the pulses amounts to at least 1 or 10 seconds, it would have been obvious to one having ordinary skill in the art to arrive at this time interval, after routine experimentation with the volume of gas delivered to the bubbler, the viscosity of the molten glass, and the pressure of the gas delivered, as suggested by Wright, in order to arrive at an optimal interval.

5. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wright (US. Pat. No. 2,890,548) in view of Applicant's Admitted Art.

While Wright may not stated that oxygen gas is utilized in the bubbler of its invention, Applicant admits, on page 1 of the instant specification, that in the refining of molten glass, the introduction of oxygen gas in the bubbling process is well-known. Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to have utilized oxygen as the bubbling gas for the refining process since said gas can also be reabsorbed by the molten mass after the refining phase – as also admitted by Applicant. Further, while there may be no articulation in the reference of an end result, it follows that since all other elements of the method have been met by the reference, the invention of said reference would also result in molten mass being freed of foreign gases. Further, after experimenting with the viscosity of the molten glass, the pressure of the gas utilized and the diameter of the tube delivering said gas, as disclosed in Wright, one would optimize the high surface-area/volume ratio, which would inherently achieve the result of minimal bubbling gas amounts and maximal expelling of foreign gas.

Response to Arguments

6. Applicant's arguments filed February 27, 2004 have been fully considered but they are not persuasive.

- Applicant argues that the Wright reference fails to teach, or even suggest, the interruption of the gas stream as required under claim 1. However, the Examiner disagrees. First, the claims recite "introducing a gas stream", and then "interrupting the gas stream". The Examiner believes that the Wright reference discloses these process limitations. As admitted by Applicant, Wright discloses the delivery of a high-pressure

gas stream which is intermittently shut off. This corresponds to the recitation, in claim 1, requiring that the gas stream be "interrupted between two sequential pulses". Just because - at the same time that the high-pressure gas is being delivered - a low-pressure gas is also being constantly delivered does not mean that the limitations of the claims are not satisfied. The claims only require that a gas stream is delivered and interrupted between pulses, and that is precisely what is occurring, in Wright, as it relates to the high-pressure gas stream. As the claims are currently phrased/recited, there is no recitation requiring the introduction of only one gas stream.

- Further, Applicant asserts that the Wright reference fails to show certain features of applicant's invention, it is noted that the features upon which Applicant relies (i.e., "a pressure free phase absolutely must to present between each pulse of the gas stream", "a sharp decline in pressure is necessary to produce smaller bubbles") are not recited in the rejected claims. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In light of the above, it is believed that use of the Wright reference to reject the instant claims is proper.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

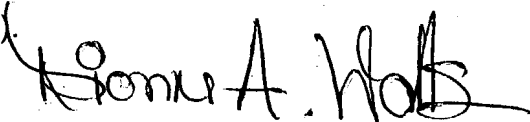
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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dionne A. Walls whose telephone number is (571) 272-1195. The examiner can normally be reached on Mon-Fri, 7AM - 4:30PM (Every other Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven P. Griffin can be reached on (571) 272-1189. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Dionne A. Walls

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Primary Examiner
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May 17, 2004